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1-14 (canceled)

15.(previously presented) A tire assembly, comprising:

a rim having a generally U-shaped cross-section, an inner surface and an outer surface, and defining left and right recesses on its inner surface;

a tire mounted on said rim, said tire including left and right edges received in said left and right recesses, wherein a hollow space is formed between said tire and said rim; and

a plurality of inflated balls located in said hollow space, wherein each ball has a diameter and spans the space between the tire and the rim, and wherein each ball can support a load in pounds that is at least as great as one hundred times the cube of its diameter in inches without exceeding its tensile limit and without exceeding its elastic limit, and wherein the wall thickness of said ball is less than three percent of its diameter.

16.(currently amended) A tire assembly, comprising:

a rim, including a one-piece ring having an inner surface and an outer surface, and defining left and right recesses on its inner surface;

an opening through said rim, and a valve in said opening for controlling the flow of gas through said rim;

a tire mounted on said rim and defining an open space between the tire and the rim, said tire including left and right edges received in said left and

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right recesses, said left and right edges including left and right embedded cords;

and

a plurality of gas-filled balls located between said tire and said rim,
each of said balls having a wall, and an individual valve which controls the flow of
gas through the wall, wherein the pressure of gas on the interior of each ball is
greater than the ambient gas pressure acting on the outside of the ball in order to
maintain the ball in an inflated state, wherein said balls are independent of said
rim and tire and are free to shift circumferentially relative to said rim and tire;

wherein each of said balls has a diameter and spans the space
between the tire and the rim so that a single layer of balls fills that space;

and wherein the balls are inflated to substantially different internal
pressures with lower pressure balls and higher pressure balls arranged at
desired intervals in a repeating pattern and with the lower pressure balls
deforming more under pressure than the higher pressure balls, so as to provide
an effect similar to having knobs on the outer surface of the tire, wherein each
ball can support a load in pounds that is at least as great as one hundred times
the cube of its diameter in inches without exceeding its tensile limit and without
exceeding its elastic limit, and wherein the wall thickness of said ball is less than
three percent of its diameter.

17.(canceled)

18.(previously presented) A tire assembly, comprising:

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a rim having a generally U-shaped cross-section, an inner surface and an outer surface, and defining left and right recesses on its inner surface;

a tire mounted on said rim, said tire including left and right edges received in said left and right recesses, wherein a hollow space is formed between said tire and said rim; and

a plurality of inflated balls located in said hollow space, wherein each ball has a diameter and spans the space between the tire and the rim; and

wherein each of said balls comprises:

a thin wall, defining an interior surface and an exterior surface;

wherein the thickness of said thin wall is less than two percent of the diameter, and wherein said ball can support a load in pounds that is at least one hundred times the cube of its diameter in inches without exceeding its tensile limit, without exceeding its elastic limit, and without expanding more than 50% from its initial surface area.

19.(previously presented) A tire assembly as recited in claim 18, wherein said ball includes a valve.

20.(previously presented) A tire assembly as recited in claim 19, wherein said ball is made of polyurethane.

21.(previously presented) A tire assembly as recited in claim 20, wherein said ball is made of welded-together sheets.

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22.(canceled)